WHAT IS CLAMED IS:

1. A transmitter comprising:

a carrier wave generation means for generating a carrier wave possessing a predetermined frequency;

a baseband pulse generation means for generating baseband pulses at time intervals equal to a fraction 1/n of said frequency (n is an integer); and

a modulation means for modulating said baseband pulses with said carrier wave.

2. A transmitter comprising:

a baseband pulse generation means for generating baseband pulses with a pulse width equal to a rectangular wave pulse length that is an integer multiple of one cycle of the predetermined frequency carrier wave; and

a modulation means for modulating said baseband pulses with said carrier wave.

3. A transmitter according to claim 1 or 2, wherein

said carrier wave generation means generates a carrier wave possessing a frequency set in the center of the transmission band.

4. A transmitter according to claim 1 or 2, wherein

said carrier wave generation means generates a carrier wave possessing a frequency set in the center of a band not interfering with communication systems already in use.

5. A transmitter according to claim 1 or 2, wherein said modulation means converts the frequency of said baseband pulses by using said carrier wave.

6. A transmission method comprising the steps of:
generating a carrier wave possessing a predetermined frequency; and
generating baseband pulses at time intervals equal to a fraction 1/n of said frequency (n is an integer).

7. A transmission method comprising the steps of:
generating rectangular wave pulses, as baseband pulses, with a length that is an integer multiple of said predetermined carrier wave frequency; and
modulating said baseband pulses by using said carrier wave.

8. A receiver for receiving a signal transmitted on a carrier wave having a frequency set in the center of the transmission band and obtained by using said carrier wave to modulate the baseband pulses generated at time intervals equal to a fraction 1/n of said carrier wave (n is an integer), wherein
a baseband pulse train is detected by quadrature detection using a carrier wave with the same frequency as during transmission.

9. A receiver according to claim 8, wherein
said transmitted signal contains a predetermined training

signal,
the time intervals between said baseband pulses are divided into equal durations at least shorter than the pulse width, an analog/digital conversion sequence is repeatedly performed multiple times on said baseband pulses that are quadrature-detected at all divided positions in the pulse time interval, and the pulse position is estimated based on the amplitude values.

10. A receiver according to claim 9, wherein
said amplitude energy values are integrated and the point where the integrated value becomes large within the time interval between pulses is determined as the pulse position.

11. A receiver according to claim 10, wherein
said preamble section of said transmitted signal contains a periodic pattern of the time required to perform analog/digital conversion at all the positions, and
the I and Q values detected by quadrature detection are summed in a manner similar to complex numbers, and the point where the energy value of the summed value becomes large is determined as the pulse position.

12. A receiver according to claim 11, wherein
said periodic pattern phase is detected and transmission path status is estimated by eliminating the effects of said pattern from the data summed in a manner similar to complex numbers.

13. A receiver according to claim 8, wherein
said pulse position is corrected or tracked by detecting the phase shift of said carrier wave, as well as the point where the received energy is high is determined as the pulse position.

14. A receiver according to claim 13, wherein
said pulse position is tracked by digital processing when the analog/digital conversion speed is sufficiently high.

15. A receiver according to claim 14, wherein
the phase of the information bit phase is converted by analog operations such as addition/subtraction and inversion of I and Q, and the result is then evaluated to select the phase having an optimal phase shift.

16. A receiving method for receiving the transmitted signal comprised of N cycle pulses obtained by carrier-modulating said baseband pulses generated at time intervals equal to a fraction 1/n (n is an integer) of said carrier wave with a frequency set in the center of the transmission band, wherein
a baseband pulse train is detected by quadrature detection using a carrier wave with the same frequency as during transmission.

17. A transmitter according to claim 1, further containing a spread code generator module for generating spread codes for direct spectrum spread.

18. A receiver according to claim 8, further containing a spread code generator module for generating spread codes for direct spectrum spread.

19. A pulse detection method for detecting the pulse position of a signal transmitted on a carrier wave with a frequency set in the center of the transmission band and obtained by carrier-modulating said baseband pulses generated at time intervals equal to a fraction 1/n of said carrier wave (n is an integer), and said transmitted signal contains a predetermined training signal, wherein
the time intervals between pulses are divided into equal durations at least shorter than the pulse width, an analog/digital conversion sequence is repeatedly performed multiple times on said baseband pulses that are quadrature-detected at all divided positions,
and said pulse position is estimated based on the amplitude values.

20. A pulse detection method according to claim 19, wherein said amplitude energy values are integrated and the point where the integrated value is a maximum within the time interval between pulses is determined as the pulse position.

21. A pulse detection method according to claim 20, wherein said preamble section of said transmitted signal contains a

periodic pattern of the time required to perform analog/digital conversion at all the positions, and
the I and Q values detected by quadrature detection are summed in a manner similar to complex numbers, and the point where the energy value of the summed value becomes large is determined as the pulse position.

22. A tracking method for tracking a signal transmitted on a carrier wave with a frequency set in the center of the transmission band and obtained by carrier-modulating said baseband pulses generated at time intervals equal to a fraction 1/n of said carrier wave (n is an integer), wherein
said pulse position is corrected or tracked by detecting the phase shift of said carrier wave, as well as the point where the received energy is high is determined as the pulse position.

23. A tracking method according to claim 22, wherein
said pulse position is tracked by digital processing when the A/D conversion speed is sufficiently high.